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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/281,831	03/30/1999	YU-CHOONG TAI	06618/425001	7686

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EXAMINER

PEREZ, GUILLERMO

ART UNIT PAPER NUMBER

2834

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/281,831

Applicant(s)

TAI ET AL.

Examiner

Guillermo Perez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 20-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 20 is/are allowed.
- 6) ☒ Claim(s) 21-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 31, 2003 has been entered.

Claim Objections

Claims 21 and 26 are objected to because of the following informalities: the term "plurality" should read ---plurality---. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 21-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dischler (U. S. Pat. 3,626,222) in view of Tai et al. (U. S. Pat. No. 6,094,116).

Dischler discloses a DC motor comprising:
a plurality of windings;

a plurality of switches (171), each electrically connected to one part of the windings, wherein each switch (171) is magnetically switched by a magnetic field (column 6, lines 7-9) without an electrical biasing current or biasing voltage to turn electrical power on or off in at least one of the windings; and

a rotating magnetic rotor (112) having at least one pole to direct the magnetic field in at least one of the switches (171) when passing by the switch (171).

Dischler discloses that the number of switches (171) corresponds to the number of motor phases. Dischler discloses that the switch is a relay. Dischler discloses that the relay includes:

a first and a second conductive surface to define at least two switching states, including:

- an open state in which the conductive surfaces are physically separated from each other, and
- a closed state in which the conductive surfaces physically contact each other to permit a current flow between the two conductive surfaces.

Dischler discloses a DC motor comprising:

a plurality of windings;

a relay electrically connected to one part of the windings for a motor phase, wherein the relay is actuated in response to a magnetic field and operates without biasing current or biasing voltage; and

a rotating magnetic rotor having at least one pole positioned to direct the magnetic field in the relay when passing by the relay.

Dischler discloses that the relay actuates in a magnetic field and closes to conduct current through a circuit, wherein each circuit includes:

a power source, the windings, the relay, and a ground terminal.

Dischler discloses that the relay opens when the magnetic field is removed from the relay to terminate current conduction through a circuit, wherein each circuit includes:

a power source, the windings, the relay, and a ground terminal.

Tai et al. disclose that the relay is a micro-machined mechanical system (MEMS) magneto-static switch (see the abstract). The invention of Tai et al. has the purpose of providing an alternative to power electronics with most of the benefits of conventional electromechanical relays but sized to fit the needs of modern electronic systems.

It would have been obvious at the time the invention was made to modify the DC motor disclosed by Dischler and provide it with the micro-machined mechanical system magneto-static switch disclosed by Tai et al. for the purpose of providing an alternative to power electronics with most of the benefits of conventional electromechanical relays but sized to fit the needs of modern electronic systems.

Allowable Subject Matter

Claims 1-5 and 20 are allowed.

Response to Arguments

Applicant's arguments with respect to claims 21-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guillermo Perez whose telephone number is (703) 306-5443. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305 3432 for regular communications and (703) 305 3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

Guillermo Perez
Tuesday, April 15, 2003

